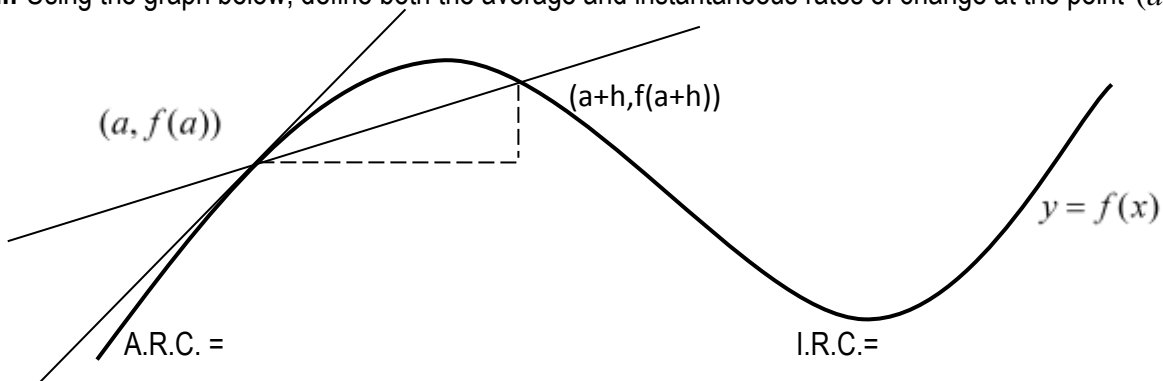


## Lesson #5: The Slope of a Tangent

L.G.: "I can determine the slope of a tangent at a point to any given function."

**Recall:** Using the graph below, define both the average and instantaneous rates of change at the point  $(a, f(a))$



**Interpretation of the Derivative  $f'(a)$ :**

**Example 1:** Determine the equation of the following tangent lines to the curve defined by

- a)  $f(x) = -x^2 + 3x - 5$  at  $(-2, -15)$       b)  $f(x) = \frac{3x+6}{x}$  at  $(2,6)$       c)  $f(x) = \sqrt{x-7}$  at  $(16,3)$